

The Chronicle of the EARLY AMERICAN INDUSTRIES ASSOCIATION

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Kitchen Wooden Ware

By MARY EARLE GOULD

Strange as it may seem, my hobby of wooden pantry boxes led me into an unexplored field. As I began to gather my first twenty boxes, I was soon aware that there was no set pattern in the making, and my curiosity was aroused concerning the use as well as the workmanship. My study of them led me to believe that they were of a period before factories existed, because of the hand-made nails and the crude workmanship. Records of factories may be found in various libraries, but I had no source of information as to the early boxes and other wooden articles. Four large libraries replied that they could find no statements to enlighten me—not even a reference. All this whetted my desire to know how and why my boxes came into existence.

I am most blessed with the friendship of a ninety-year-old lady from "Down East." Her mind has recorded details all through her life, and so vividly can she portray her description, that we are both transported to a long-ago scene. Anything in the home or on the farm, from a feather bed to a hatchel, she can describe and tell its history. So to her I went with my boxes. And as my collection extended to buckets, bowls, sieves, and pantry tools, I have accurately learned, from my own observation and from her word pictures, how the families produced these wooden articles and how they put them into use.

Two engravings of much importance have recently come to my notice. They are both by Dutch engravers. One is of the thirteenth century, and portrays a man at work on a crudely constructed lathe, making a wooden eating bowl. The second picture is of the sixteenth century, showing a man working on a similar lathe, turning a chair leg. On a shelf in the corner are three articles of much interest

to me—a foot stove, a small wooden churn, and a wooden spice box. This corroborates my theory that spice boxes and various wooden articles were made very early and were made

Our Purpose

The purpose of the association is to encourage the study and better understanding of early American industry, in the home, in the shop, on the farm, and on the sea, and especially to discover, identify, classify, preserve and exhibit obsolete tools, implements, utensils, instruments, vehicles, appliances and mechanical devices used by American craftsmen, farmers, housewives, mariners, professional men and other workers.

Dues

The annual dues are one dollar, payable September first, for the year immediately ensuing. *The Chronicle* for the current year is sent to all members without additional charge. Back numbers may be secured from the Treasurer for 20c each. For further information, address any of the officers. See page 5.

by hand. The lapped boxes of various sizes, bowls and trenchers, and the many pantry tools came into existence in front of the huge fireplace in the winter evenings. Staved and hooped pieces were mostly made by the white cooper. That name was given to the man who made the staved buckets, tubs, and kegs—pieces smaller than barrels. And he was nothing more than the "handy man" of the town, who could keep his neighbors supplied with things which they could not make themselves.

All unintentionally then, the pursuit of a few interesting boxes for my own use in my pine and maple chamber has led me into a hobby of over two hundred and fifty pieces. (Numbers do

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Safety Lamps

By EDWARD A. RUSHFORD

In my article "Camphene or Fluid Burners," published in Number 8 of *THE CHRONICLE*, appears the statement, "there seems to be but little doubt that Isaiah Jennings, of New York City, was the inventor of both camphene and burning fluid." Since then, the specification of the patent granted Mr. Jennings on March 3, 1829, has been found, and the ingredients which he recommended for burning in his new lamp, ascertained. There were three compounds; the first, three parts of oil and one part of turpentine spirits; the second, one part of rosin or turpentine and seven parts of oil or other grease; and the third, any kind of hard grease mixed with oil to the consistency of a soft paste. As camphene was simply spirits of turpentine, these mixtures cannot be given that title, and the first theory in regard to this patent is wrong. Later study leads to the belief that the use of spirits of turpentine as a lamp fuel extends much farther into the past than Jennings' time. In the specification of John Miles' patent for the solid burner, now termed whale oil burner, issued in England in 1787, the frequent reference to spirits may mean spirits of turpentine, but that is a subject for further research. It is certain, however, that Jennings did invent burning fluid, though this "combination of liquids" did not acquire the title until some years later. The formula given in the patent, granted October 16th, 1830, is considered worth repeating. "To produce light from alcohol and spirits of turpentine, mix equal or unequal parts of each, agitate them that they may mix together; let them stand awhile, and the alcohol will be combined with a small quantity of turpentine, and the remainder will be separated; draw off the alcohol, and the small portion of turpentine combined, which is about

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The Gold Beater

By WILLIAM B. SPRAGUE

(Continued from last issue)

(The capital letters interspersed through the text refer to the authorities listed at the end of the article, and the Fig. Nos. to the sketches published with the first instalment.)

Upon being removed from the cutch, each leaf of gold, being now four inches square, is laid upon a leather pad or cushion (D, H), and cut into four equal squares (A) with a steel knife (B, D, E, G), called a *skewer knife* (K, Fig. 3). These 600 one-inch squares are next interspersed between the leaves of the *shoder* (B, H, I). The *shoder* is just another cutch except that it is about five inches (B), instead of four inches, square, that it has 600 leaves, to accommodate the increased number of gold squares, and that its leaves are composed of *gold beaters' skin*, instead of vellum (A, B, D, E.). Gold beater's skin is prepared from the "peritoneal membrane of the caecum" (large intestine) of the ox (A), by a secret process (C, I) of which the date of discovery is uncertain (I), and which is now controlled by two English firms (J). Various measures are taken by the gold beater to put and keep the skins in proper condition to suit his purposes (H, I). Modern skins are of double thickness (K).

Having filled the *shoder* with the gold squares, the workman resumes his beating, now using the spreading hammer, but his strokes are more "careful, delicate and precise" (A), and even more frequently he rifles the *shoder* (I). After about two hours (J), the gold squares have extended to the five-inch area of the skins (I), whereupon they are again removed to the leather pad, but they are now "so slight that the moisture of the air or the breath condensing on a metallic knife would occasion them to stick to it" (B, E), and the second cutting is therefore done with an instrument which has been variously described as "a strip of cane with sharpened edge" (B, E, H), called a *reed* (K), "pieces of very sharp cane crossing each other at right angles" (C), "two pieces of cane cut to a very sharp edge and fixed down transversely on a board" (G) "two strips of Malacca cane, set in a frame of boxwood, and called the *wagon*" (J, K, Fig. 5), or *sleigh* (K), only one of the cane strips being sharpened, the other serving merely as a guide (K). This instrument, being applied to each leaf, with slight pressure, divides it into four equal

portions (G), thus producing a total of 2400 leaves (A), which are separated into three lots of 800 each, (A, E, H) and in turn inserted into the *mould* (H, J). This must not be confused with the iron ingot mould, referred to above, as it is identical with the *shoder*, except that it is slightly wider on each side (K), and that it contains 800 (A, E, H), instead of 600, pieces of gold beater's skin. In fact nowadays the *shoder* is usually made from a mould which has begun to wear out on its edges (J, K). Formerly, the intestines of about 500 oxen were required to produce the number of skins required for the mould (I),



The Gold Beater.

From Rivington's Trades (B)

but nowadays about 380 suffice (J). However, the present cost of the mould is from \$125 (K) to \$175 (J). The term *tool* is applied to the cutch (H, I, K) and also to the *shoder* and mould, and the three together are known as a *set of tools* (K).

The skins of the mould are brushed or *brimed* with powder on both sides, before the squares of gold are placed between them, in order to prevent the gold from sticking to the skin. This powder is made of pulverized stone, and the brush is the hind foot of a Siberian hare (Fig. 8), as the beater claims that no other fur is soft enough to answer his purpose. Each briming of the mould involves over 8000 separate motions of the brush (J). One authority states that the vellum of the cutch was likewise brushed with pow-

dered selemite, and that "the French, at least," used a hare's foot for the purpose (I).

The gold, in the mould, is again beaten in similar fashion, with the finishing hammer, for four or five hours, by which time each leaf is approximately five inches square and of the thinness desired. The pack of skins is now "withdrawn from its parchment envelope and held by one of its angles" (I), and "with the end of a cane instrument" (B, E) or a "pair of wooden pliers" (I, J), made of white wood (H), the leaves are laid on a leather cushion and "blown out flat" (C, D, E, I),—"an operation requiring considerable skill" (H),—and trimmed to final size. Presumably, many gold beaters have used the same cutting tool for the mould leaf as for the *shoder* leaf, but at this stage, we find the following additional descriptions of the cutter,—"a square frame of cane, made of a proper sharpness" (B, E), "a square board which has pieces of cane glued to it" (C, D) "pieces of cane set in a frame, both four-square and cruciform, with sharpened edges that divide the attenuated leaf, better than any other implement, by pressure downwards only; when the leaf becomes very thin, any other motion would drag it" (I). For this purpose, both cane strips of the wagon are kept sharp, so that two edges of the finished leaf may be cut at once (K). The gold beater is by no means independent of weather conditions, damp and frost being considered particularly unfavorable (B).

Only about one-third to one-half of the finished leaves are perfect (D). These are placed in books of twenty-five pages, the paper of which is well smoothed, and rubbed with red bole (B, D, E) or red chalk (C, G, H) to prevent their sticking to it.

Theophilus, in the 9th Century A. D., advocated red ochre or chalk for this purpose (I). The book is "pressed hard with a piece of wood its own size, so as to bring its edges close, and, with a piece of linen, any projecting pieces of gold are readily wiped off" (I). One ounce of gold fills eighty books (D), which, in 1852, sold for fifteen shillings each, (H) and now cost about seventy-five cents.

The methods of the early French gold beaters (G, I) differed radically from those followed in America and in England. Several distinct improvements have lately been introduced to the trade in this country (K). The crucible now used for melting is made of clay (Fig. 7) rather than lead, which

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had some tendency to discolor the gold; the anvil formerly of marble, is now of blue granite, which is less liable to chip from an accidental blow of the hammer; rice paper is preferred to vellum for the catch, and the briming powder is mixed with shaving soap and allowed to dry before using, the object in each case being to reduce friction and to allow the gold leaf to spread more rapidly.

Although machines for beating gold were shown, in 1852, at the London Industrial Exhibition (H), none has yet been invented which will produce the equivalent in quality of the hand work, and fully seventy five per cent. of the gold leaf used today, for gilding the exteriors and interiors of ornate buildings, for lettering glass doors, book covers, hat bands and the like, is made by the laborious processes above described (J). It takes three or four years for a novice to become expert, and, in 1931, the wages of the beater were from \$40 to \$50 for a week of six nine-hour days. The majority of the workmen are elderly men,—the younger generation apparently not having been attracted to the trade,—and the time appears to be approaching when hand-made gold leaf of the present fine quality will no longer be available (J). The gold in a five-dollar coin could now be spread, by beating, to 5000 square inches, an ounce to 175 square feet, and \$5000 worth could be made to "blanket an acre" (J).

Notwithstanding that every possible precaution is taken to prevent waste of the precious metal in the gold beater's establishment, yet when one of these suspended operations a few years ago, a wrecking company purchased the building, burned the floor on which the beaters had worked, and recovered \$7000 worth of gold from the ashes (J).

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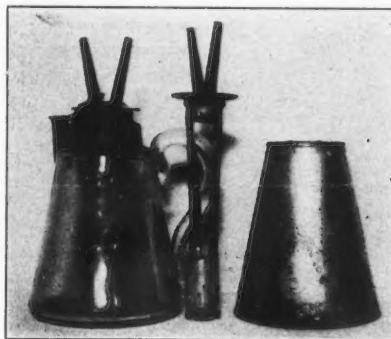
Vol. I, pp. 900-1. (J) Information from Mr. O. C. Correll, secretary and treasurer of All Purpose Gold Corporation, Brooklyn, N. Y., 1931. (K) Information from Mr. Frank Ludwik, who operates a gold-beating establishment at Brooklyn, N. Y., and personal observation of the methods followed by his workmen, 1935.

Safety Lamps

(Continued from page 1, column 3)

one-eighth part, and it will be ready for use."

In the same issue of *THE CHRONICLE* it was shown how the dangerous qualities of this new fuel caused the invention of a new and safer type of burner, but the new burner appeared to be entirely inadequate, and much attention was given to the production of specially devised lamps, termed "safety lamps." In spite of all efforts,



1. Newell Lamp. 2. Horsford Lamp Burner.
3. Harris Lamp Reservoir

however, camphene and burning fluid continued to take their toll of injury and death, and destroy property. As late as 1860, the *Scientific American*, in a report which was probably far from complete, gave the number of deaths from burning fluids in the preceding decade as 424, and the number of persons injured as 623. Greater credit should be given to Abraham Gesner, whose patents for kerosene sounded the death knell of the "liquid gunpowder" turpentine group of burning fluids. Space does not permit the listing of all the many devices and lamps which were developed or patented to make the burning of these fluids less dangerous. Jennings was one of the pioneers in this work, and in his patent for an "Alcohol and Turpentine Lamp," issued September 22nd, 1836, he recommended the insertion of perforated tubes within the reservoir, with or without wrappings of wire gauze. He also patented a can for holding the fluid, protected in a

similar manner. Some of these so-called safety devices were enclosed within the reservoir of the lamp, with burners of ordinary fluid type, others employed specially constructed burners, and in a third group, special burners were combined with special reservoir construction. Many of these safety devices were incorporated in lamps made of glass.

It was during the 1850s that the greatest activity took place to render this "clean" burning fluid safe in the hands of the general public. Professor E. N. Horsford, of Harvard, was especially prominent in this work, and associated with him was Dr. J. R. Nichols of Haverhill, Mass. A glass lamp recently acquired has the words "E. N. HORSFORD'S SAFETY LAMP, REGISTERED 1852," marked on the burner plate, but the patent records show no such patent. There was, however, a patent issued to E. N. Horsford and J. R. Nichols for a Safety Lamp, on October 30th, 1855, and the construction of the 1852 Horsford lamp conforms to the specification of this patent. Perhaps some researching reader will be able to throw light on the tangle of dates. This lamp is one in which both the burner and the reservoir are specially constructed. Above the plate, the burner is similar to any two-tube fluid burner, but, below it, is a circular chamber through which the wick tubes pass, and in which is a small opening covered with wire gauze. A small cylinder of tin, intended to hold the lower ends of the wicks, is attached to the chamber with slender tin bands. Within the reservoir, there is soldered a tin tube, open at both ends, though the lower end is covered with wire gauze. In this tube the burner, with its attached cylinder, fits.

The safety lamp most commonly found today is that invented by John Newell, of Boston. It is another of those premature-birth lamps, as "Newell's Patent Safety Lamp—Warranted to prevent all accidents from the use of Burning Fluid, Camphene, and other explosive compounds used for the production of light" was being advertised and sold for nearly a year before its patent was issued. Newell's patent was incorporated in lamps of glass, pewter and tin, and there were two types. These lamps, as did many other so-called safety lamps, depended on the wire gauze principle of Davy's lamp for their element of safety. All of them had a non-removable cylinder of wire gauze, extending from the burner opening to near the bottom of

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the reservoir. Some had a second cylinder of gauze, which screwed into the burner plate, and was removable with it. In purchasing these lamps, there are two points to be observed; the burner plate should be marked "J. NEWELL'S PATENT, OCT. 4, 1853." If no wire gauze cylinder is attached to the burner, its undersurface should be carefully examined to make sure that there is but a single thread. If a second thread is present, it will be found on the inner surface of the regular thread, and such a lamp should have two wire gauze cylinders.

Perhaps the most curious of the safety lamps is that invented by Elbridge Harris, also of Boston, whose patent is dated March 20th, 1855. Examples of this lamp are exceedingly rare, and unless carefully inspected might pass for ordinary glass, fluid, hand lamps of the tapering form. The burner is for two wicks, and of the ordinary type, but what appears to be the usual glass reservoir is bottomless, and merely a cover for the real reservoir of tin, which fits snugly into it. An opening in the top of the reservoir fits so tightly around a tin tube, which extends from the burner opening to the bottom of the lamp, that it cannot fall out. A slot cut in the tube is covered with wire gauze. By this arrangement, Mr. Harris thought that, in case of accident to the glass part of the lamp, the metal container would retain the fluid and prevent fire and explosions.

Wooden Ware

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not count now, for it is the history that I am making.)

There are two distinct types of boxes—those of the Shakers and those of the Colonists. The Shakers carried out a uniformity and accuracy in everything they made. The Colonists' workmanship generally expressed the skill or lack of skill of each individual creator. The early boxes are all different—with the exception of the nests of round boxes which show a factory uniformity. There are four groups of boxes—butter boxes, cheese boxes, spice boxes, and pill boxes. In themselves they are a most interesting study. The woods vary according to

the use of the box—from the strong oak and ash for the larger boxes, to the maple that has to be thinned on a grindstone for the pill boxes. The study of the woods and of the nails—from the hand-forged to the factory-made—has helped me to make my classifications.

We are all aware that nothing stands unto itself alone. So came the rest of the kitchen utensils,—the buckets, sieves, cheese baskets, kegs, tubs, mortars and pestles, bowls, and pantry tools. Fate has been particularly kind to me, without any ceaseless effort on my part, and I count among my collection many museum



DAIRY AND PANTRY TOOLS

pieces. There is a burl or knurl of maple that is the beginning of a bowl. Two bird's-eye maple bowls are beautiful examples of wood. The sieves that are of pre-wire period are quite rare. Two very old winnowing sieves—one with a rim of ash and the other of quartered oak—date back much over one hundred years. The splint is of black ash, and husks of grain are still caught in the mesh—mute evidence of the farmer's toil. The same kind of splint is found in the cheese baskets. Sometimes elm was used instead of black ash. These baskets are made in hexagon shapes of various sizes. They were placed in a rack over a tub, and used to drain the curds. The pigs got the liquid in the tubs. One basket in my collection is like an ordinary utility basket—square, finely woven, with handles—and has large open spaces in the bottom for the drain. Horse-hair sieves are not easily found. They were apparently made by the Shakers, and are most commonly made in graded, round, nests. There is an oval one, with cover for the top and for the bottom, which was found in an up-country

home. A similar one has bolting cloth for the sieve.

Buckets are still another pursuit. There are water buckets, sugar buckets, sap buckets, well buckets, and milk piggins. They can be classified, as to the age, by the hoops. The first workmanship shows hoops that were lapped over and tucked under, the next has a more elaborate dove-tailing, and later hoops were lapped over, and nailed with hand-made nails or brads. In my collection is a small bucket, eight inches high, with pine staves and bottom, oak bale handle, and two hickory hoops. An authentic inscription on the bottom reads "made in 1770 by

E. Proctor when he was ten years old." Again a hand-made article which proves my statements that only a connoisseur can figure aright and read unwritten history.

The pantry tools are most varied, and here there is very little clue as to age. They show that they are hand-made and many came from ingenious minds. One rare piece is a butter paddle made of beech wood, with the butter stamp forming the handle. Another example of the early times is a pair of butter paddles designed like pallettes with finger holes. A lemon squeezer—a handle with a corrugated, pointed head—toddy spoons, spatulas, chopping knives, rolling pins, scoops for various purposes, knives and forks—all these lightened labor in the kitchen.

Water kegs, molasses kegs, hand tubs, wash tubs (oval and round), mortars and pestles were all found in the old kitchens. One can easily see how much history can be traced in these wooden articles. The bypaths that lead from the road to a Hobby are many, and happy is he who is alert to all the contacts. These pursuits seem to be health-giving and life-giving. So, young and old, "go thou and do likewise."

A stool was probably the first piece of furniture made by man. Beds may be just as old, but they are harder to make, and, furthermore, nature has not given as many hints as in the case of the stool, which was evidently suggested by logs and suitably shaped stones, which primitive man found more comfortable than the ground to sit on. The desire for something better produced the 8000-year-old stool mentioned by Blummer.

Early American Industries Association

Early American Industries Association

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W. B. SPRAGUE, Editor.

Editorial

It cannot be disputed that, to the man on the street, a collector of antiques is a subject for mild derision, along with absent-minded professors, long-haired men and short-haired women. Nor can it be disputed that collectors have at least a trace of an inferiority complex, when they explain to a non-collector, that they are engaged in an intellectual avocation. One reason for this defensive attitude is, of course, that relatively few antiques are purchased for their beauty, their utility or their historical associations; another is that most people would criticise a tone-deaf man, who collected violins made by Stradivarius. They might say that such things should be owned by someone who could use them, possibly to entertain a large number of people. This is naturally an extreme case, but is not the burden of proof on the collector to prove that the basis of his collecting is something more than acquisitiveness? There are a group of men who take their collecting seriously. They give their lives to it, and spend millions in the aggregate. Their collections are housed in large, costly

buildings that we call museums. The men themselves may be called archeologists or ethnologists. Just what is the essential difference between this type of collector and the average antiques collector? The difference is that, to the ethnologist, a collection of ancient articles is not an end in itself but the means to an end, namely, the reconstruction of the civilization from which they came. To those of us whose specialty is collecting old tools, the words of a famous ethnologist should be particularly stimulating. Baikie, in his "Century of Excavation," says, "Archeological research consists principally in the discovery of the common things of daily life, * * * tools, domestic utensils and the like. The pots and pans of life."

L. L. T.

Our New Members

The increase in our membership, since our last issue was published, is far beyond the normal rate, due principally to the fact that over eighty new members joined us at the Antiques Show, where we were able to verbally explain our activities and purposes, and to show THE CHRONICLE to a large number of people, at least potentially interested in the historical background of the country. Experience has taught us that very little interest in our work can be aroused by broad-cast circulation, while personal solicitation and verbal explanation is generally successful. It is hoped that each one of those who have recently joined will do his or her part by enrolling at least one or two friends in the Association. Those who wish to see THE CHRONICLE appear more frequently and carry more cuts can help by sending a voluntary contribution for this purpose to the Treasurer. The grateful thanks of the Association are due to the management of the Antiques Show for their generous and courteous treatment of us, to Mr. Wiggins for lending the necessary material for the display, and to the members who gave so liberally of their time and energy in attendance at the booth.

Annual Meeting

Under our by-laws, it is the duty of the Executive Committee to designate the place and date for the annual meeting, as near as possible to Sep-

tember first. There seems little doubt that August 31st will be the date selected, as Saturday is obviously the most convenient day of the week for members with business connections to be away from home. Much as we have enjoyed our first two meetings at Wiggins' Old Tavern, there appears to be strong sentiment in favor of Salem, Mass., as our meeting place this fall, not only on account of the natural beauties of this typical old New England town, but because of the important collections of the Essex Institute and the Peabody Museum, as well as the Pioneers' Village, all of which should be of especial interest to our members. Dr. Rushford has kindly consented, with the help of others living in Salem and the vicinity, to make all necessary local arrangements. Before the Executive Committee takes definite action in the matter, it is hoped that all who are interested will communicate their views to one of the officers.

New York Meeting

An informal but well attended gathering of members living in New York and vicinity was held at the antique shop of Miss Helena Penrose, 114 East 56th Street, on the evening of May 8th. Many of the visitors brought with them puzzling articles, on which they sought information, or books, pictures, etc., of early industries. Conversation and refreshments were enjoyed until a late hour, the feature of the evening being a most interesting explanation by Mr. J. C. Edgette of a set of glass blower's tools which he had recently acquired. Mrs. Elie Nadelman has invited all members of the Association to inspect her collection of American and foreign tools and implements and many other classes of antiques, at Riverdale, N. Y. on Memorial Day at 3 p.m. All members who wish to receive personal notices of these occasions must so advise the Editor, unless they have already done so.

Chronicle No. 1

Sufficient orders have been received for the reproduction of our first issue to cover the cost, but not on the same quality of paper. We shall wait about two weeks more, before going ahead with it, in hopes that additional orders received during that time will pay for the better paper.

The Chronicle

First Porcelain Making in America

By G. A. R. GOYLE

(Continued from last issue)

Stephen's reaction to this slight we find in his journal, under July (23, 1741: "It was given out that he (Duché) was exceedingly caressed by the General etc. which I could easily give credit to, on account of his pottery, if what he carried with him answered the Expectations that had so long been raised of it; For he had lately drawn his kiln of ware, which was baking a second time, when I attempted lately to see it; and since it was drawn, nobody was allowed to have a sight of it (except a choice friend of his) before he had shewn some of it to his Excellence (General Oglethorpe): Wherein he was certainly not to be blamed. It was farther said, that he was designed to go soon for England, and carry with him samples of what he had brought to Perfection, with ample, commendatory letters to many persons of high rank; which I likewise had no cause to disbelieve, hoping the sight of what he had done, would deserve all due encouragement; but that all his political labours here for a while past could merit the like approbation from any, whom the guardianship of the Colony was intrusted with, I could by no means persuade myself to imagine; which I heartily wish may not occasion more mischief than all his other works will compensate for." Under date of August 17, 1741, Stephens continues: "Mr. Duché resolving still to pursue his intention of going to England, as soon as he could with convenience get some part of his ware ready to carry with him, to shew to the trustees, thought fit to send to Mr. Jones and me, desiring we would come and be present at his forming some of his clay into useful cups etc. We did so and sat by him, whilst he moulded two or three such, about the size of large tea-cups, which were shaped not amiss; neither had either of us any doubt of his being capable of that before; and they were white, as he also said, they would be transparent, when baked as they ought to be, in like manner as he had shewn me one a while since, that appeared to be so, and was to go through another baking; but how far it may deserve the name of porcelain, when all is done must be left to

proper judges, for its present appearance differs very little (if any thing) from some of our finest Earthen-ware made in England, and he says himself, that the glazing and colouring, is a peculiar work to be done by other hands, who are artists in that way. We told him we should be ready to certify what we had seen; but the doubt yet remained with us, how far we could venture to advance more of the Trust's money for his use, without being fully warranted to do so."

From all that we have reported so far, we hope to have shown convincingly that Andrew Duché had actually invented the process of making porcelain with the use of white clay (kaolin), the most important ingredient. In his quest for suitable clay, he may have found it himself or procured it from the Indians. The fact remains that, in the ensuing time, white clay was found along the mountain regions from Virginia, through the Carolinas and Georgia to Florida. The Indians, who had known it for a long time, called it *unaker*. The early attempts of making porcelain in England, at Bow, near London, were only successful after China clay from America was imported, as we shall show subsequently. In our endeavor to find who was the middleman for this importation, we are strongly inclined to suspect that it was Andrew Duché. We have found that he left Georgia in March, 1743, stayed some time in Virginia, and in 1744, had arrived in London. It seems more than a coincidence that, at that very time, a patent was taken out for making porcelain by Edward Heylyn, the parish of Bow, Middlesex, merchant, and Thomas Frye, of the parish of West Ham, Essex, painter, and that the specifications disclose the material used was "an earth, the produce of the Cherokee nation in America, called by the nation *unaker*." If Andrew Duché was the moving spirit behind that patent, we must concede that he acted wisely. Let others do the discouraging work of pushing an invention to financial success. He had far more important means of getting immediate returns in his hand, the supplying of the *sine qua non*, the China earth. His stay in Virginia, before he came to London, seems to have been to arrange for supplying the English market with China clay. He not only could produce samples of the clay, but actual samples of porcelain, which he had made himself from *unaker*, the

American China clay. Llewellyn Jewitt, in his "The Ceramic Art of Great Britain" tells us that Wm. Cookworthy wrote, on 5th month 30th, 1745, the following letter: "I had lately met with the person who has discovered the China-earth. He had samples of the china-ware of making with him, which were I think equal to the Asiatic. 'T was found in the back of Virginia, where he was in quest of mines; and having read Du Halde [Original in French, 1736, English edition, 1738], discovered both the petunse and kaolin. 'T is the latter earth, he says, is the essential thing towards the success of the manufacture. He is gone for a cargo of it, having bought the whole country of the Indians where it rises. They can import it for £13 per ton, and by that means afford their china as cheap as common stoneware. But they intend only to go about 30 per cent. under the company." Though not disclosing the name of the person whom he refers to, we cannot but feel that it was no other than our Andrew Duché who had tried to interest Cookworthy in the American clay, and produced his samples of porcelain. At any rate, Andrew Duché was no longer the potter after his London trip, but engaged in some mercantile venture, with headquarters in Georgia or Virginia. When, in 1768, Cockworthy discovered mountains of China clay as near as Cornwall, Andrew Duché had already become wealthy and independent. His father, in his will, probated in Philadelphia in 1762, makes specific mention of this fact, to explain why he left him only a legacy of five shillings.

Further search in English records may produce material to complete the story of Andrew Duché's career, especially about his activities after 1746, where we have had to rely in part on circumstantial evidence. The fact, however, stands out, beyond peradventure, that Andrew Duché, a born American, was the first to successfully make porcelain in 1738 on our continent.

The oldest known public exhibition of tools and machines was held in the City Hall at Nuremberg, in 1569. A catalogue of this exhibition, preserved in a local museum, shows one hundred and five exhibits. One of these was a cannon-boring machine, and a model has been made from the detailed description.

Early American Industries Association

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Please check your name and address and advise Mr. Goodnow of any corrections. The total membership is now 526.

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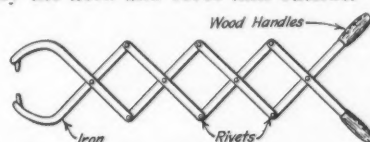
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Dog Tongs

By FRANK K. SWAIN

Who ever found or saw "dog tongs" in America? In the days of shepherds, dogs and sheep, these tongs were used in England. I had read of them, but none ever turned up in America. I looked for them everywhere in England, Scotland and Isle of Man, where there were shepherds, and at last found a pair in the little church at Wrexham, near Chester, England, where they had been used centuries ago, when Welsh shepherds, leaving their flocks in the care of the trusty dogs, went to services in the nearest church.

After a time the dog might trail his master, and enter the church unobserved. One dog would not matter, but others might follow, and sooner or later, in the middle of the service or the long sermon, there would be a terrible fight—and it is not always wise to interfere, bare-handed. The Verger would rush for the dog tongs, kept in a convenient place, grab a dog by the neck and force him outside.



These tongs had wooden handles like hedge shears with three X-like arrangements of iron, riveted together, not unlike a lattice. By bringing the handles together, each X folded and thus stretched out, several feet away from the Verger, and two iron spikes in the ends or jaws would jab the dog's neck and tighten their hold, or even sink into the flesh, by spreading the handles apart. I believe there is but one pair in England. The same idea has been carried out here in "Lazy Tongs," used by smokers a century ago to reach for a live coal, on the hearth, to light a pipe. Modern stores now have the same arrangement, made of wood, for removing light wares from high shelves.

Museum Notes

By FRANK C. AYRES

The Business Historical Society, Inc., Baker Library, Soldiers Field, Boston, will welcome information as to the existence and location of all kinds of historical business records. In their search for the various tools and other appliances used as an aid to industry in the early days, the members of the Early American Industries Association will possibly discover records of business operations, which will be desirable for permanent preservation. If so, the Society would be grateful for their assistance in placing such material where it will be protected from destruction, and made available for research and study. The record and account books, diaries, journals, correspondence and legal manuscripts, relating to all phases of past business activities, contain many lessons in present-day efficient business management. There are still countless business organizations which have lost their identities through liquidation or merger, whose records would help our contemporaries and become a valuable legacy for future generations. As examples of original data already acquired by the Society, mention may be made of over 3500 volumes of cotton and other textile records, covering the period 1793-1900; many books of account of general stores and farmers from 1754 to 1857; the records of banks and other financial institutions dating from 1784, when the Massachusetts Bank, the first bank in New England was organized, to the early 1900's; the log books, billing, ship's manifests and reports connected with the operations of upwards of one hundred American clipper ships, brigs, sloops and schooners, and several thousands of volumes of miscellaneous marketing services, connected with a great variety of commodities. Such records form a chapter in American industry, which, too often, are thoughtlessly destroyed. They should be preserved and their service to the business world extended indefinitely. The Society is using every effort to accomplish this result, but it needs information as to where historical business data may be found, and assistance in securing it. Communications addressed to Frank C. Ayres, Executive Secretary, The Business Historical Society, Inc., Baker Library, Soldiers Field, Boston, Mass. will receive prompt attention.

COMMUNICATIONS

From Mr. H. K. LANDIS:

"While the industries of this country are undergoing readjustment to the requirements of the year 1935, as made necessary by the progress of civilization, it might be well to revise our appreciation and utilization of the craftsmanship and artifacts of the past few generations; if time is available, studies may well be extended to antiquity. Those early artisans had some good ideas which were born before their time and which may be good today. The study of these in the light of pure knowledge is interesting, but may also result in something of value, when considered in the light of application. The fact that so much of our knowledge has advanced little further than developed by the ancients shows that they had good ideas upon which we have not been able to improve. In fact a study of the parallel progress of industry and civilization shows that, while civilization is behind the times, the present status of industrial development is much further behind, when considered in the light of the greatest benefit to our people. Some of the things we have been so proud of are found to be positively injurious to the people in general. A discussion of this would fill a book. As we go back we find that individual shops and mechanics flourished everywhere; today they occur occasionally only, and the land is full of hatchet carpenters and monkey-wrench machinists, instead of small shops working out their own salvation in an individualistic manner.

"Civilization advances through development from the simple to the complex, through greater efficiency and the development of mental power in the solution of problems, with good judgment in control. We have fallen short in the mental requirement and particularly in judgment. How do we get good judgment? By study and experience, by the study of past experience, methods and results. No brain is so big that it knows instinctively the things it does not know. That is why the study of the industry of the past will assist materially in solving the difficulties of today. Mu-

seums and libraries should be encouraged and supported in their efforts to rescue from oblivion these records of past experience that will assist the student of past conditions. While we are spending billions of dollars in dole to the jobless, how much goes to the collectors of such material; how much ought to go to them? These questions should have answers."

From Mr. LAWRENCE B. ROMAINE:

"The following letter, recently found in an attic in East Taunton, Mass., calls to mind the quotation in the last installment of the hat-making article that 'the journeymen hatters earnings are good; but we fear, as in numerous other trades, that his habits are not calculated to induce him to make the most of them.'

'new port June ye 13 day 1771

Loveing brother These few Lines comes with my Love and Respects and to let the kno that the hatters is not gone from our house and they will not go away and they will not go a way and they now board with us Geams Steward Still keeps with Sall Ely yet and I dare not drive him a way for fear he will go off in debt to the and thou will Lose it for he ows a good deal yet for he talks of going away soon and I should be glad if thou would come over ass soon as possible So no more at present but I remain thy Loveing Sister Phebe Upton

June ye 15 this day I have heard from home and understand that that they have rasd a bout 40 men to take Geams steward and Sall ely and are agoing to set them in the Pilary and expect there will be murder done before I git home and I expect he will go off soon and I should be glad if thou would come over soon as posible for I believe that he ows the a good deal yet."

From REV. C. F. LUTHER:

"The value of THE CHRONICLE as a medium of exchange, not only of articles but also of ideas, was brought to my attention by the communication of Mr. Frank K. Swain in the March issue. Therein he told of a visit to the parish church of Dunster and of

seeing a real *trunk*, a great log dressed on the sides and bottom with a slab sawed from the round top and hinged *in situ*, forming a lid, with the interior of the log hollowed out, thus making an original trunk. The description was prefaced with the remark that he had not gone four thousand miles to see something strictly American, as the attendant said, adding, "As far as I know an American would have to travel that far to see what I saw." It is at exactly this point that my own idea and knowledge may supplement and correct that supposition, for a *trunk* similar in every respect may be seen in the collection of Mr. Andrew L. Winton, of Wilton, Conn. Mr. Winton has specialized in the collection of furniture constructed of the native whitewood — *liriodendron tulipifera* — and the trunk is of that variety, measuring some two feet or more in diameter."

From Mr. HORACE M. MANN, Curator of the Doylestown, (Pa.) Museum.

"In the March CHRONICLE I notice a note from Mr. Allen Eaton asking for information concerning the basket-making of the Southern Highlands. In 1917 I made a two month's trip on horseback through the Big Smoky Mountains known as the Laurel region, about 100 miles north-west of Ashville. At that time I found nearly every native making baskets, for their own use, of split hickory and whole willow. The Presbyterian Board of Home Missions, established in that country, encouraged the people to keep alive their old fashioned hand industries and, to provide a market for their surplus, had established in Ashville a co-operative store known as "Allenstand Industries." I brought back a number of used baskets and a few new ones to be added to our large collection of local hand-made baskets. One interesting type was known as a "Hip-basket." It started in the usual melon shape, but the center rib was deeply indented forming two lobes. The purpose was to fit firmly over the hip of a woman on horse back, and not jiggle around as much as the ordinary shape."

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